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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/811,702 | 03/19/2001 | Matthew Waight | D02542 | 8838 |

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GENERAL INSTRUMENT CORPORATION DBA THE CONNECTED
HOME SOLUTIONS BUSINESS OF MOTOROLA, INC.
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HORSHAM, PA 19044

EXAMINER

SHANNON, MICHAEL R

ART UNIT PAPER NUMBER

2614

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,702

Applicant(s)

WAIGHT ET AL.

Examiner

Michael R. Shannon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,8,9,12 and 13 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,4,5,8,12 and 13 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20051013.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed October 13, 2005 have been fully considered but they are not persuasive.

Firstly, the Examiner would like to express appreciation to the Applicant for the claim and specification amendments that were made to correct minor objectionable and 35 USC §112 issues. Also, the Examiner notes that the Applicant stated, "The response was filed one day after the agreement was made by the Examiner in the interview and it seemed clear at the time that there was no dispute about the allowability of the claims visa vis the McMullan and Jung reference". The Examiner disagrees with this statement. During the brief interview, allowability over the cited prior art was not discussed. The discussion was about the rejection dated April 5, 2005 and it's improperness because the Jung reference did not inherently teach certain claim limitations of claims 4, 8, and 12. Instead, the Examiner subsequently took OFFICIAL NOTICE to the obvious features and therefore provided a new non-final art rejection still in view of the same references combined with the OFFICIAL NOTICE statement.

The arguments relating to claims 1, 5, and 9 state that "McMullan does not disclose a CPLD which generates an amplifier switch signal for connecting the upstream amplifier to an RF tuner for transmission of the upstream data signal to the headend, and which generates an amplifier control signal for powering on and off said upstream amplifier". The Applicant relies on page 4 of the Office Action dated September 14, 2005 in stating that the Office action acknowledges

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this supposed shortcoming. Page 4 of the previous Office Action (see the first full bullet on page 4) clearly states that the McMullan reference does disclose this functionality. What the McMullan reference does not disclose is that the "CPLD generates the amplifier switch signal after the amplifier control signal is generated, thereby stabilizing said upstream amplifier" (see the second full bullet on page 4 of the previous office action). In fact, that feature is found in Jung, as previously discussed in the 103 rejection.

The arguments further state, "Jung does not disclose or suggest to turn off an amplifier at all, let alone the upstream amplifier". This is clearly false, when reviewing the Jung reference. The RF Amplifier 612 is clearly a piece of the Pilot Signal Generator 610, and when the Pilot Signal Generator 610 is turned off [col. 4, lines 49-60], the Amplifier is therefore also turned off. The Amplifier being a part of the Signal Generator 610 clearly shows that when the Signal Generator is turned on/off, so is the Amplifier.

In view of the unpersuasive arguments and a further, more detailed review of the prior art of record, the previous rejection still stands and is hereby made Final.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1, 4, 5, 8, 9, 12, and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over McMullan Jr. (USPN 5,251,324), previously cited by Examiner, in view of Jung (USPN 6,678,893), previously cited by Examiner.

Regarding claim 1, the claimed "cable modem for receiving down stream and transmitting upstream communication signals to a cable network having an upstream power control system for controlling power consumption" is met as follows:

- The claimed "MAC chip for synchronizing upstream communication signals, and outputting an upstream control signal" is met by the Microprocessor 504 [Fig. 4], which is the "brain" of the module, acting as a MAC chip to determine when to transmit (based on instructions sent from the head end) [col. 11, lines 58-63 & col. 15, lines 54-63].
- The claimed "upstream amplifier for receiving synchronized upstream communication signals from said MAC chip" is met by amplifier 509 [Fig. 4], which amplifies the upstream signal received from the Microprocessor and sends it to the head end [col. 13, lines 14-18].
- The claimed "complex programmable logic device (CPLD), coupled to said MAC chip and said upstream amplifier, which controls said amplifier in response to the upstream control signal from said MAC chip, such that said CPLD causes said upstream amplifier to power on during transmission of upstream signals and power off when not

transmitting said upstream signals, thereby reducing power consumption of the cable modem” is met by the anti-babble control 513 [Fig. 4], which serves to power on/off and switch on/off the amplifier 509 [col. 11, lines 65-68 & col. 13, lines 14-18].

- The claim that, “wherein said CPLD generates an amplifier switch signal for connecting said upstream amplifier to an RF tuner for transmission of said upstream data signal to said head end, and an amplifier control signal for powering on and off said upstream amplifier” is met by the anti-babble control 513, which controls the on/off switching of the amplifier 509. The anti-babble control 513 can power on/off the amplifier and can switch on/off the connection from the amplifier to the Diplex Filter 511 for transmission via RF [col. 13, lines 14-41].
- The McMullan reference does not teach that the “CPLD generates said amplifier switch signal after said amplifier control signal is generated, thereby stabilizing said upstream amplifier”. The Jung reference teaches the steps of sending a requested pilot signal to the head-end through an amplifier 612. The first step requires a power (control) signal to turn on the pilot signal generator (and the Amplifier 612) [Jung, col. 4, lines 49-60]. A later step requires the switch to be activated to connect the pilot signal (and Amplifier 612) to the tuner [Jung, col. 5, lines 8-13]. The two steps that take place in that order meet the fact that the CPLD generates the amplifier

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switch signal after the amplifier control signal is generated, thereby stabilizing said upstream amplifier. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the control and switch signals as taught in Jung, in order to allow the system to stabilize and allow the head-end to "receive a constant level signal" [Jung, col. 4, line 19].

Regarding claim 4, McMullan Jr. and Jung teach all of that which is discussed above with regards to claim 1. The McMullan reference does not teach that the "CPLD continues generating said amplifier control signal after said CPLD ceases to generate said amplifier switch signal, thereby truncation of said upstream data signal is avoided". The Jung reference merely teaches creating a power signal followed by creating a switching signal function to stabilize the upstream amplifier before transmission, as is discussed above with regards to claim 1. To activate the signal, Jung first generated the upstream pilot, and then switched on the upstream pilot (thereby letting the upstream pilot stabilize before it was switched). The Jung reference, however, is silent regarding the steps of switching the pilot signal generator off and then powering it down (as is claimed in reference to the upstream amplifier). The Examiner gives OFFICIAL NOTICE that it is notoriously well known in the art to turn devices off by performing the opposite steps that were taken to turn them on. For example, take a task as simple as turning on a light. In order to turn the light on, one would flip the switch to the UP position. Therefore, it stands to reason as being clearly obvious, that in order to turn the light off, one would need to do the exact opposite and flip the

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switch to the DOWN position. Since the steps to turn the signal on involve first generating the upstream pilot, and second, switching on the upstream pilot; the opposite steps should be fairly obvious in order to turn the signal off and consist of first switching off the upstream pilot, then, stopping generation of the upstream pilot. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the control and switch signals as taught in Jung, in order to allow the system to avoid truncation of the data signal and allow the head-end to "receive a constant level signal" [col. 4, line 19]. Furthermore, it would have been clearly obvious to one of ordinary skill in the art at the time of the invention to turn off the device in the exact opposite way from how it was turned on. Just as stated above with reference to the light switch example, the steps for turning a device off should be clearly obvious once the steps for turning the device on are known.

Regarding claim 5, see the above rejection to claim 1.

Regarding claim 8, see the above rejection to claim 4.

Regarding claim 9, see the above rejection to claim 1.

Regarding claim 12, see the above rejection to claim 4.

Regarding claim 13, see the above rejection to claim 1.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael R. Shannon who can be reached at

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(571) 272-7356 or Michael.Shannon@uspto.gov. The examiner can normally be reached by phone Monday through Friday 8:00 AM – 5:00PM, with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached at (571) 272-7353.

Any response to this action should be mailed to:

Please address mail to be delivered by the United States Postal Service (USPS) as follows:

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is **(571) 272-2600**.

Michael R Shannon
Examiner
Art Unit 2614

Michael R Shannon
December 12, 2005


JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600